

# DaleMov. Cognitive stimulation therapy oriented to people with Parkinson's

## Cognitive stimulation supervised mobile platform for people with Parkinson Disease

*DaleMov is a solution oriented to people with cognitive disease due to Parkinson's. They can carry out their rehabilitation therapies in a remote way under the supervision of their therapists. Therapy is personalized for each patient according to his/her needs. In addition, therapists can add new exercises designed by them in a easy way. This solution is formed by tablet application used by patient and a web access used by therapists. DaleMov allows people who can not attend periodically to any association can benefit from this kind of remote therapies.*

*Prototype has been designed under the advising of expert therapists. The platform have been tested by several patients with highly satisfactory results. The research work has been funded by Vodafone Spain Foundation.*

Technology solution supported by the Technical University of Madrid

### Technology solution

DaleMov is a mobile platform oriented to people with mild of moderate cognitive impairment due to Parkinson, who can carry out their therapies under their therapists' supervision in a remote way.

DaleMov platform works in a client-server model. Patient performs his/her cognitive therapy and therapist personalizes his/her therapy according his/her results, giving a positive evaluation which can be consulted through patient's device.

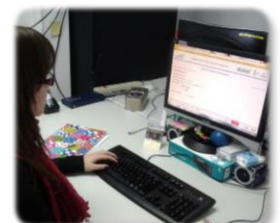
Patient application is based on Android for tablet with Internet connection. Therapist monitors patient's results through a web connection, adapting the therapy. In addition, he/she can add new exercise in an easy and intuitive way.

*"New solution oriented to people with Parkinson's carry out remote personalized cognitive stimulation therapies according to their needs, everywhere and at any time".*



### Areas of application

▪ **ICT applied to health and personal care:** cognitive stimulation; e-health, tele-rehabilitation; active ageing; independent living.



## Market demands

### ▪ ICT applied to health and personal care

- Several researches have highlighted the benefits of cognitive stimulation therapies aimed at people with cognitive deficits, such as the delay in deterioration process and improving their quality of life. [Orrell, M., 2005]
- People with Parkinson disease carry out cognitive stimulation therapies both prevention techniques and for the maintenance of their abilities for as long as possible.
- Many of these people can not benefit of these kind of therapies due to their mobility problems or for living in a rural areas, far away of any association.
- Nowadays, there are solutions in the market used by PC. People with Parkinson's have a lot of problems when they using it because of their motor disease associated to their illness. Due to that, using a tablet may destroy this digital divide [European Parkinson's Disease Association].

*"Cognitive stimulation may delay cognitive impairment due to Parkinson disease, improving the quality of life of these patients"*

## Market potential

### ▪ People with Parkinson disease

- Parkinson disease affects 120,000 people in Spain, taking them 65% of cognitive impairment associated to this disease. 30% of diagnosed people are under 65 years old. [Madrid Parkinson Association]
- There are 6.3 million people on the world who suffer this disease, with a trend that can reach up to 9.3 million in 2030. [European Parkinson's Disease Association]

### ▪ People with other cognitive diseases

- In Spain, there are about 600.000 people with dementia and close to 400.000 who suffer Alzheimer. [Center for Biomedical Research in Neurodegenerative Diseases, Spain]

## Competitive advantages

- DaleMov has been designed taking in account the needs of affected group (patients and therapists), who have been involved in all the process of design and evaluation.
- It has carried out an evaluation with 30 patients in Spanish Parkinson associations and 2 patients at home, with highly satisfactory results.
- Unlike other solutions on the market, DaleMov allows continuous monitoring of patients by their therapists and management therapies according to the needs of the patient.
- Because of the versatility of the developed platform, it could be adapted easily to the needs of other groups that present cognitive impairment, such as Alzheimer's or mild cognitive impairment.

## References

- DaleMov has been funded by Vodafone Spain Foundation and it has been supported by Spanish Parkinson Federation.
- First study over interactive digital television (project funded by Elderly and Social Services Institute, Spain).

## IPR

Software Registration M-1034/2011

## Development stage

- ☐ Concept
- ☐ R & D
- ☒ Lab Prototype
- ☐ Industrial Prototype
- ☐ Production

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